AMENDMENTS TO THE SPECIFICATION:

[7] Each of the valves includes a respective opening. Each sequential valve includes an opening larger than the previous valve. In a first position, the first valve is fully open and the following valves are partially open. That is, flow through the ~~valves downstream of the~~ first valve in its fully open position provides the limiting flow restriction. ~~Fluid flow through the passage is thus limited by the first valve.~~

[8] Upon initiation of the system, the feed assembly drives the fluid material component to the valve assembly. As the feed assembly forces material into the closed valve assembly fluid material pressure increase. The pressure is identified by a sensor and relayed to the controller. The feed assembly continues to force fluid material against the first valve until the pressure is above a predetermine value. Once the pressure is above the predetermined value, the controller releases the pressure from an actuator associated with the first valve and the valve opens. Fluid material can now flow through the valve assembly at a rate suppressed by valves downstream of the first valve. As the feed assembly continues to build toward it operational pressure, each remaining partially closed valve is opened in sequence. The restriction of one valve is thereby replaced by a lesser restriction of a later valve. By opening the valves at ~~a~~ predetermined pressures, the pressure buildup can be readily controlled (Figure 3).

[17] Figure 1A schematically illustrates a multiple material molding system 10. The system 10 generally includes a plurality of fluid material supplies 12A, 12B and 12C, which communicate with a feed assembly 14 through respective supply conduits 16A, 16B, 16C. The feed assembly 14 drives a desired quantity of fluid material from each fluid material supply 12A-12C through output conduits 18A-18C and to a respective valve assembly 20A-20C. The valve assemblies 20A-20C (Figure 1B) meter the initial shot of fluid material from the feed assembly 14 through a respective inlet 21 to a mix section M of a mix head 25 of the mix head assembly 22 (Figure 1B). As will be further described below, the valve assemblies 20A-20C assure that the initial surge of fluid

materials are suppressed so that a proper ratio of each fluid material component is fed to the mix head assembly 22 from the beginning of each shot. It should be understood that various mix sections M which mix a multitude of fluid materials for a mold operation will be usable with the present invention.

[18] The mix head assembly 22 thoroughly mixes the fluid material from the feed assembly 14 within the mix section M of the mix head 25 ~~in a mix section (illustrated schematically at M; Figure 1B)~~ and injects the final mixture ~~through an outlet (illustrated schematically at O)~~ into a mold assembly 23 or the like through an outlet 27 from the mixer section M (Figure 1B). Preferably, a controller 24 communicates with the feed assembly 14, valve assemblies 20, and the mix head assembly 20 to assure the system 10 is operating within predefined parameters. Controls for injection-molding equipment are known in the art and further description of the algorithms will not be further detailed herein. System 10 is preferably utilized for injection molding of very large parts, and in particular bathtubs and shower surrounds.

[26] Each of the valves 32A-32C includes a respective opening 36A-36C. The opening 36A-36C are movable relative to the passage 30 to restrict fluid material flow. Although axial movement is provided in the disclosed embodiment other valve motion, e.g., rotational will also benefit from the present invention. Preferably, opening 36A is sized to be of the same diameter as passage 30. Opening 36B is sized to be larger than opening 36A and opening ~~36B~~36C is sized to be larger than opening ~~36C~~36B. It should be understood that although substantially straight cylindrical openings and passages are illustrated, other configurations will also benefit from the present invention.

[27] Referring to Figure 2A, the valve assembly 20 is illustrated in a closed position. The bottom seal 44 of each valve 32A-32C is in contact with the housing 35 and the springs 39 are compressed. The bottom seals 44 thereby maintain the valves 32A-32C in their proper position relative to the passage 30. Preferably, in the fully closed position the opening 36A of valve 32A is completely out of alignment with passage 30 such that no

fluid material can pass while valves 36B and 36C are partially closed. Preferably valve 36B is open 1/16 of an inch and valve ~~36e~~ 36C is open 1/8 of an inch in a ½ inch passage 30.

[28] The bottom seal 44 of valves 32B and 32C, maintain opening 36B, 36C at least partially in line with passage 30. In other words, a portion of opening 36B and 36C are aligned with passage 30 such that fluid can fluid can flow there through. Preferably, opening 36B and 36C are positioned such that the amount of flow through openings 36B and 36C is at ~~least~~ most equivalent to flow through opening 36A when opening 36A is fully open. That is, flow through opening 36A when valve 32A is in its fully open position (Figure 2B) ~~provides~~ does not provide the limiting flow restriction as openings 36B and 36C ~~provide equivalent flow to that through the fully open valve 32A~~ the limitation to flow. Fluid flow through passage 30 is thus no longer limited by valve 32A when valve 32A is in a fully open position (Figure 2B).

[30] Upon initiation of the system 10, the feed assembly 14 drives the fluid material component (BPO in this example) to the valve assembly 20. As the feed assembly 14 forces material into the closed valve assembly 20 (Figure 2A) the fluid material pressure increase. The pressure is identified by the sensor 40 and relayed to the controller 24. The feed assembly 14 continues to force fluid material against closed valve 32A until the pressure is above a predetermine value. The predetermined value is determined in part by the viscosity of the fluid material component, its percentage relative to the other components, and the desired feed rate of the feed system. Here, the predetermined value V-1 for BPO is 50 psi. Once the pressure is above 50 psi the controller 24 releases the pressure from the actuator 38A such that valve 32A opens under the force of the spring 39 (Figure 2B). Valve 32A is opened by the spring 39 until top seal 42 contacts the chamber 34A and opening 36A is aligned with the passage 30. Fluid material may now flow through the valve assembly 20 at a rate suppressed by ~~valve 32A~~ valves 32B and 32C.

[31] As the feed assembly 14 continues to build toward it operational pressure, fluid material is forced into the valve assembly 20. The fluid material flows through the fully open valve 32A and through the partially open valves 32B and 32C. The initial pressure buildup or "surge" toward its operational pressure (100 psi) is thus partially relieved. The feed assembly 14 continues to force material into the valve assembly 20 and the pressure continues to build as ~~valve 32A~~valves 32B and 32C, although partially open, ~~is~~ are still a restriction to the fluid flow.

[32] Once the pressure reaches a second value V-2 (75 psi) the controller 24 releases the pressure from actuator 38B and valve 32B opens under the force of its spring 39 (Figure 2C). Valve 32B is opened by the spring 39 until top seal 42 contacts the chamber 34B such that the opening 36B is aligned with the passage 30. The restriction of valve ~~32A~~ 32B is now replaced by the lesser restriction of valve ~~32B~~32C. As the feed assembly 14 continues to force material into the valve assembly 20, the fluid material flows through the fully open valves 32A and 32B and through the partially open valve 32C. Again, valve 32C is partially open to the extent that valve 32B is the limiting restriction in passage 30. In other words, valve 32C is partially opened to be, at most, approximately equivalent to the flow restriction provided by valve 32B in the fully open condition (Figure 2C). The continued pressure buildup is thus further relieved. Finally, as the feed assembly 14 reaches a third value V-3 (100 psi) valve 32C is opened (Figure 2d) and the fluid material flow into the mix head 22 is stabilized at a steady state. Notably, by opening each valve 32A-32C at a predetermined pressure, the slope S of the pressure buildup can be readily controlled.